Notulae de Hepaticis Japonicis (I).

auctore S. HATTORI

服部新佐: 日本産苔類雜記 (其一)

Taeniolejeunea ZWICKEL in Ann. Bryol. VI, 106 (1933).

The genus *Taeniolejeunea* was proposed in 1933 by Dr. W. ZWICKEL, who listed under this genus the following species: *Leptocolea floccosa, Physocolea peraffinis, Ph. falcata* and *L. appressa.* In 1931–1934 Prof. Y. HORIKAWA of Hiroshima University described many new species of the genera *Leptocolea* and *Physocolea* from Japan. Among them *Leptocolea ocellata, L. pseudofloccosa, L. ocelloides* and *Physocolea oshimensis* should be removed to the genus *Taeniolejeunea. Taeniolejeunea Nakaii,* the fifth species of the genus, and *T. Verdoornii,* proposed as a new species in this paper, have large stellate-verrucose papillae on the antical surface of the leaves, which give a peculiar appearance to them. *T. Nakaii* and *T. pseudofloccosa* (HORIKAWA) have no "ocelli basales", although they agree with *Taeniolejeunea* in all remaining generic characteristics. So *Taeniolejeunea* may be more amplified to admit the diversity of the Japanese species. In my mind, *Taeniolejeunea* is distinguished from *Leptocolea* as follows:

	Taeniolejeunea	*Leptocolea*
1	plant smaller in general	plant larger in general
2	cell-wall thick, often becoming trabeculate; trigons larger	cell-wall thin but sometimes with intermediate thickenings; trigons smaller or absent
3	ocelli mostly present	ocelli never present
4	papillae always present	papillae always absent

Of those four characteristics above enlisted the second and fourth are the most available ones in dividing the genera.

The writer wishes to express his sincerest thanks to Prof. T. NAKAI who guided him to complete this work, and read his manuscript before publication.

Key to the species.

1 { papillae stellate-verrucose .... (2).
papillae mammilose .... (3).

2 { Apex of the lobule one-toothed; ocelli absent .... *T. Nakaii.*
Apex of the lobule two-toothed; ocelli present .... *T. Verdoornii.*

3 { Margin of the leaves bordered by the hyaline cells elongated to the radial direction .... *T. oshimensis.*
Margin of the leaves never bordered by those cells .... (4).

4 { Ocelli absent .... *T. pseudofloccosa.*
Ocelli present .... (5).

5 { Apical tooth of the lobule minute or almost desolate; median tooth large, strongly curved to the keel .... *T. floccosa.*
Apical tooth of the lobule larger and distinct; median tooth not curved to the keel .... (6).

6 { Apical tooth of the lobule multicellular, strong and acute, far larger than the median one .... *T. ocelloides.*
Apical tooth of the lobule 1(-3)-cellular, smaller than the median one .... (7).

7 { Leaves ovate, hardly falcate, postical margin forming no rounded sinus with the keel; hyaline papilla never present between the indentation at the apex of the lobule .... (8).
Leaves ovate-oblong, falcate, postical margin forming a rounded sinus with the keel; hyaline papilla present between the narrow indentation ...... (9).

8 { Apical tooth of the lobule larger and longer, bi- or tri-cellular, the median tooth rather spiniform; the indentation between the two teeth narrower .... *T. peraffinis.*
Apical tooth of the lobule smaller and shorter, unicellular, the median tooth rather mammiform; the indentation between the two teeth wider .... *T. peraffinis* var. *ocellata.*

9 { Leaves slightly falcate; the dentation at the apex of the lobule weaker; ocelli uni-seriate .... *T. appressa.*
Leaves strongly falcate; the dentation at the apex of the lobule stronger; ocelli pluri-seriate .... *T. falcata.*

1) **Taeniolejeunea Nakaii** S. Hattori in Nakai, Icon. Plant. Asiae Orient. IV–2, pl. CXXII (1941).

Hab. Eccere S. Hattori, l. c.

Distr. Ins. Ryûkyû.

2) **Taeniolejeunea Verdoornii** S. HATTORI, sp. nov.

Planta monoeica; mediocris, dilute flavo-virens, substrato appressa, foliicola. Caulis ad 10 mm longus, 0.03–0.04 mm in diametro, cum foliis 0.6–0.7 mm latus, irregulariter ramosus, rhizoidium fasciculis radialiter affixus. Folia caulina parum imbricata, subrecte vel leviter oblique patula, parum concava

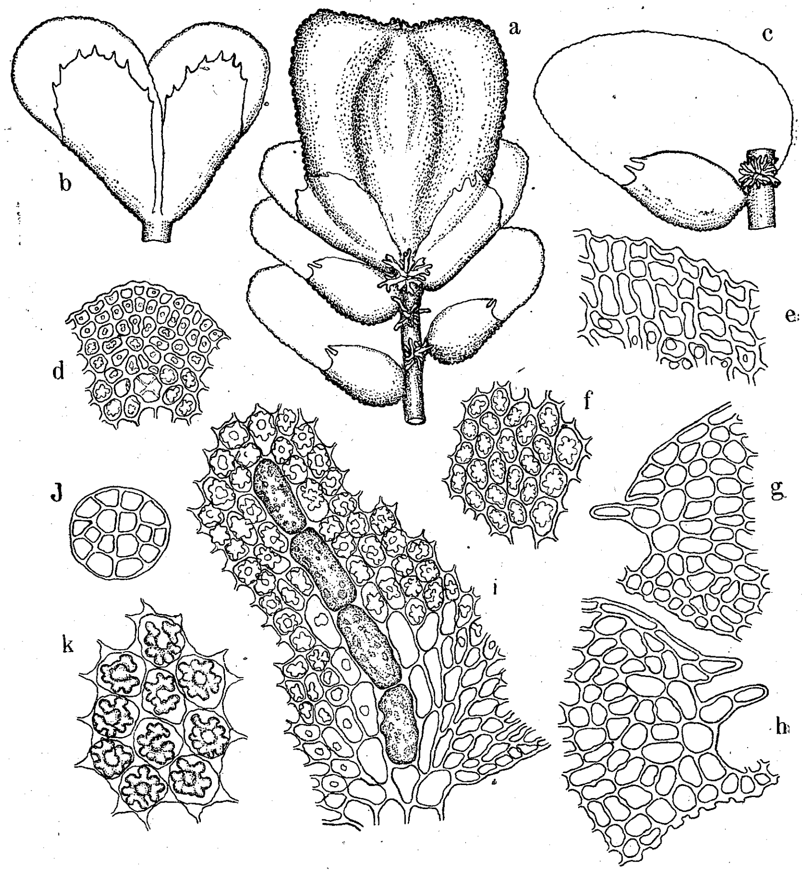


Fig. 1. *Taeniolejeunea Verdoornii* S. HATTORI

a. Apical part of the stem with a perianth (×70). *b*. bracts (×70). *c*. Piece of the stem with a leaf (×78). *d*. Apical part of the leaf (×280). *e*. Antical margin of the leaf (×410). *f*. Cells from the middle of the leaf (×280). *g*, *h*. Apices of the lobules (×280). *i*. Basal portion of the leaf (×280). *j*. Gemma (×280). *k*. Papillae from the antical surface of the leaf (×410).

vel subplana, opaco-diaphana, ovata, vix falcata, 0.4 mm longa at 0.26 mm lata, apice obtusa, margine dense crenulata, antico late arcuata, postico substricta, basi antica serrulata, caulem leviter superantia, facie antica dense papillata. Cellulae apicales parvae 6–7μ longae, parietibus trabeculatis, mediae 15–20 × 15μ, trigonis magnis, basales parum longiores, in facie antico papilla magna armatae, papilla irregulariter stellatoverrucifera, medio profunde depressa; ocelli basales distincti, uniseriati, serie 4 cellulare. Lobulus maximus, ovatus, inflatus, 0.18 mm longus et 0.11 mm latus, oblique ascendenti-truncatus, apice bidentatus, dente angulari acuto, introrsim curvato, 1–3 cellulari, altero parum longiore, recto 2-cellulari, carina arcuata, sinu subrecto in folii marginem excurrente; stylus parvus, unicellularis. Gynoecia uno latere innovata; folia floralia caulinis subaequantia, subobovata, plus minus falcata, apice rotundata, lobulo parum breviore, anguste obovato, apice irregulariter pauci-dentato, vix medium soluto. Perianthium magnum, complanatum, late obovatum, 0.46 mm longum et 0.4 mm latum, apice leviter sinuatum, carinis ampliatis, plicis posticis valde inflatis, anticis obsoletis, rostro brevi valido. Androecia in ramulo brevi terminalia, spicata, exigua, bracteis 2–3 jugis. Gemmae disciformes, in facie folii postici plurae.

Hab. Kyûsyû. Prov. Ôsumi: Kimotuki-gun, Tasiro-mura, Utinomaki (S. HATTORI, no. 1435-Typus et no. 1825, 2. et 13. Apr. 1939), ins. Yakusima, Ambô-mura, Suzukawa (S. HATTORI, no. 6803, no. 6818, no. 6914, no. 6949, no. 7022 et no. 7081, 23. Sept. 1940); prov. Hyûga: Minaminaka-gun, Sakatani-mura, Kamiguma (S. HATTORI, no. 2704, 12. Aug. 1939), Obi-mati, in monte Komatu (S. HATTORI, no. 6600 et no. 6605, 18. Sept. 1940).

The plant just described has very remarkable papillae similar to those of *T. Nakaii*. These two species are alike in their appearence, in the cell-structure of the leaves, and in the kind of the substrata. There are, however, some differences between them, e.g., in the shape of the leaves, in the size of the lobules, in the dentation at the apex of the lobule, and especially the presence or absence of the ocelli. The present species has two teeth at the apex of the lobule and the distinct ocelli containing such substance which discriminate them from the neighbouring cells. *T. Nakaii* has the median tooth only, the apical one being desolated, and has no distinct ocelli. They grow on the living leaves of the ferns, or sometimes of the trees.

3) **Taeniolejeunea appressa** (EVANS) ZWICKEL in Ann. Bryol. VI, 107 (1933).

Leptocolea appressa EVANS in Bull. Torrey Bot. Club, XXXIX, 606, pl. 45, figs. 7–16 (1912); KAMIMURA in Journ. Jap. Bot. XV, 75, fig. 4 (1939).

Hab. Kyûsyû. Prov. Ôsumi: Kimotuki-gun, Tasiro-mura, Utinomaki (S. HATTORI, no. 1811, no. 1895 et no. 1911, 13. Apr. 1939), ins. Yakusima, Ambô-mura, Suzukawa (S. HATTORI, no. 6835, no. 6914 et no. 6953, 23. Sept. 1940), Kaikon (S. HATTORI, no. 8114 et no. 8117, 1. Oct. 1940); prov. Hyûga: Minaminaka-gun, Sakatani-mura, Kamiguma (S. HATTORI, no. 2690, no. 2722, no. 2732 et no. 2739, 12. Aug. 1939). Sikoku. Prov. Tosa: Takaoka-gun, in monte Hônokawayama (S. HATTORI, no. 6094 et no. 6155, 31. Jul. 1940).

Distr. Jamaica, Japonia (Sikoku).

The original description and figures of the present species by Prof. A. W. EVANS are so clear and so minute that the writer is able to refer the japanese examples to *T. appressa,* notwithstanding the distance between Jamaica and Japan. The Japanese plants examined quite conform with the original description and figures. The following table shows the comparison of their size:

	Japanese pl.	Jamaica pl. (according to EVANS)
leaves	0.45–0.5 × 0.3–0.35 mm	0.5–0.6 × 0.3–0.4 mm
lobules	0.14 × 0.08 mm	0.14 × 0.08 mm
ocelli	35 × 23μ (in average)	32–38 × 21μ
perianth	0.4 × 0.33 mm	0.45 × 0.4 mm
bracts (♀) {lobes lobules	0.38 × 0.23 mm 0.2 mm long	0.45 × 0.25 mm 0.25 mm long
♂ bracts	2–3 pairs	1–3 pairs

4) **Taeniolejeunea falcata** (HORIKAWA) ZWICKEL, l. c.

Physocolea falcata HORIKAWA in Journ. Sci. Hiroshima Univ. Ser. B, Div. 2, I, 22, fig. 6 (1931) et II, 286 (1934).

Hab. Ins. Ogasawara: Titizima (S. HATTORI, no. 3148, Jul. 1938).

Distr. Ins. Ogasawara. Species endemica.

5) **Taeniolejeunea floccosa** (LEHMANN et LINDENBERG) ZWICKEL, l. c.

Jungermannia floccosa LEHMANN et LINDENBERG in LEHMANN, Pugill. Plant. V, 26 (1833)!

Lejeunea floccosa GOTTSCHE, LINDENBERG et NEES AB ESENBECK, Synop. Hepat. 324 (1844).

Lejeunea subgen. *Colo-Lejeunea floccosa* STEPHANI in Hedwigia XXIX, 18 (1890); SCHIFFNER in Nova Acta d. Ksl. Leop.-Carol. Deut. Akad. d. Naturf. LX, 242, pl. IX, figs. 11–13 (1893).

Cololejeunea floccosa SCHIFFNER, Consp. Hepat. Archip. Indici, 243 (1898); EVANS in Proc. Wash. Acad. Sci. VIII, 146 (1907).

Leptocolea floccosa STEPHANI, Spec. Hepat. V, 850 (1916); SCHIFFNER in Ann. Bryol. II, 91 (1929); HORIKAWA in Bot. Mag. Tokyo XLVI, 179 (1932); in Journ. Sci. Hiroshima Univ. Ser. B, Div. 2, II, 279 (1934); in Journ. Jap. Bot. XV, 397 (1939); KAMIMURA, l. c. 74, fig. 3 (1939).

Hab. Kyûsyû. Prov. Hyûga: Minaminaka-gun, Kitagô-mura, Inohae (S. HATTORI, no. 2828, 23. Aug. 1939); prov. Ryûkyû: Okinawa, in monte Katû-dake (Y. KIMURA et I. HURUSAWA, no. 8453, 21. Sept. 1940). Sikoku. Prov. Tosa: Takaoka-gun, in monte Hônokawayama (S. HATTORI, no. 6078, no. 6143, no. 6146, no. 6152, no. 6166 et no. 6180, 31. Jul. 1940).

Distr. Java, Sumatra, ins. Philippinis, Japonia (Honsyû, Sikoku, Kyûsyû, ins. Ryûkyû et Taiwan).

EVANS already noted in Bull. Torrey Bot. Club, XXXIX, that the Japanese specimen has two teeth at the apex of the lobule; in these teeth, however, the apical one being far smaller and not conspicuous, while, according to the descriptions by LEHMANN & LINDENBERG and others, and also to the illustration by Prof. V. SCHIFFNER, the tropical specimens have only one tooth at the apex of the lobule, the apical being disappeared. All the specimens examined by the writer also have small apical tooth without exception.

6) **Taeniolejeunea ocelloides** (HORIKAWA) S. HATTORI, comb. nov.

Leptocolea ocelloides HORIKAWA in Journ. Sci. Hiroshima Univ. Ser. B, Div. 2, II, 280, fig. 60 (1934); in Journ. Jap. Bot. XV, 397 (1939).

Hab. Kyûsyû. Prov. Ôsumi: Kimotuki-gun, Utinoura-tyô, in monte Kunimi-yama (S. HATTORI, no. 1077, no. 1147 et no. 1942, 24. Mar. 1939), Tasiro-mura, Utinomaki (S. HATTORI, no. 1406 et no. 1942, 2. et 13. Apr. 1939), ins. Yakusima, Ambô-mura, Suzukawa (S. HATTORI, no. 6782, no. 6923 et no. 7029, 23. Sept. 1940), Kosugidani (S. HATTORI, no. 7530a, no. 7825, no. 7825a et

no. 7872, 26–27. Sept. 1940), Kaikon (S. HATTORI, no. 8126a, 1. Oct. 1940); prov. Hyûga: Minaminaka-gun, Sakatani-mura, Kamiguma (S. HATTORI, no. 2703, 12. Aug. 1939), Obi-mati, Inariyama (S. HATTORI, no. 6341a, 17. Sept. 1940), in monte Komatuyama (S. HATTORI, no. 6602, 18. Sept. 1940). Sikoku. Prov. Tosa: Takaoka-gun, in monte Hônokawa-yama (S. HATTORI, no. 6169, no. 6172 et no. 6173, 31. Jul. 1940).

Distr. Japonia: Taiwan, ins. Yakusima et ins. Tusima.

7) **Taeniolejeunea oshimensis** (HORIKAWA) S. HATTORI, comb. nov.

Physocolea oshimensis HORIKAWA in Journ. Sci. Hiroshima Univ. Ser. B, Div. 2, I, 69, fig. 8 (1931); in Bot. Mag. Tokyo XLVI, 182 (1932); in Journ. Sci. Hiroshima Univ. Ser. B, Div. 2, II, 285 (1934).

Hab. Kyûsyû. Prov. Ôsumi: Kimotuki-gun, Tasiro-mura, Utinomaki (S. HATTORI, no. 1527, no. 1569, no. 1576 et no. 1830, 2. et 13. Apr. 1939), Utinoura-tyô, Kunimibira (S. HATTORI, no. 2006, 24. Mar. 1939); ins. Yakusima, Ambô-mura, Kosugidani (S. HATTORI, no. 7894, 27. Sept. 1940); prov. Hyûga: Minaminaka-gun, Sakatani-mura, Kamiguma (S. HATTORI, no. 2632, no. 2671 et no. 2741, 12. Aug. 1939); prov. Ryûkyû: Okinawa, in monte Katûdake (Y. KIMURA et I. HURUSAWA, no. 8420, 21. Sept. 1940).

Distr. Japonia: Taiwan et ins. Ryûkyû.

This species was described by Prof. HORIKAWA by the sterile plant and placed in the genus *Physocolea*. The presence of the ocelli is, however, the characteristic peculiar to the genus *Taeniolejeunea*. Fortunately, the writer could collect some fertile plants and have the oppotunity to describe its gynoecia.

Perianthia uno latere innovata, complanata, obdeltoides, 0.6 mm longa et 0.5 mm lata, in facie papilla subnulla, plicis posticis inflatis, anticis nullis, apice leviter emarginata, rostro valido. Folia involucri caulinis aequantia, parum majora, 0.6 mm longa, lobulo plano, quam folii duplo breviore, fere medium soluto, obovato; apice irregulariter pauci-dentato.

8) **Taeniolejeunea peraffinis** (SCHIFFNER) ZWICKEL, l. c.

Lejeunea subgen. *Colo-Lejeunea paraffinis* SCHIFFNER in Nova Acta d. Ksl. Leop.-Carol. Akad. d. Naturf. LX, 242, pl. IX, figs. 8–10 (1893).

Cololejeunea paraffinis SCHIFFNER, Consp. Hepat. Archip. Indici, 245 (1898).

Physocolea peraffinis STEPHANI, Spec. Hepat. V, 900 (1916).

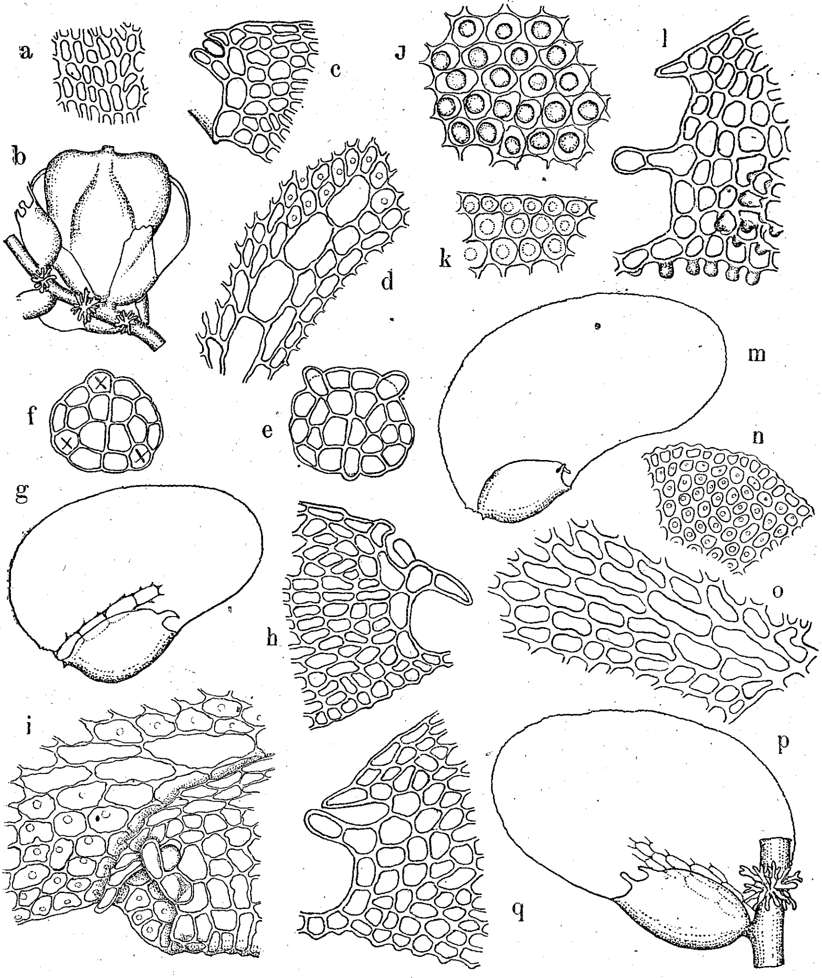


Fig. 2. *a, b. Taeniolejeunea oshimensis.* *a.* Cells from the surface of the perianth (×140). *b.* Perianth and bracts (×35). *c–e. T. appressa.* *c.* Apex of the lobule (×280). *d.* Ocelli and its neighbouring cells (×280). *e.* Gemma (×280). *f–h. T. floccosa.* *f.* Gemma (×280). *g.* Leaf (×70). *h.* Apex of the lobule (×280). *i. T. ocelloides.* *i.* Apex of the lobule and leaf-cells (×280). *j.–l. T. peraffinis* var. *ocellata.* *j.* Cells from the middle of the leaf (×280). *k.* Margin of the leaf (×280). *l.* Apex of the lobule (×280). *m–o. T. pseudofloccosa.* *m.* Leaf (×70). *n.* Apex of the leaf (×280). *o.* Basal portion of the leaf (×280). *p, q. T. peraffinis.* *p.* Leaf (×70). *q.* Apex of the lobule (×280).

Leptocolea floccosa var. *peraffinis* HERZOG in Ann. Bryol. IV, 64 (1931).

Leptocolea peraffinis HORIKAWA in Journ. Sci. Hiroshima Univ. Ser. B, Div. 2, II, 280 (1934).

Hab. Kyûsyû. Prov. Ôsumi: Kimotuki-gun, Utinoura-tyô; in monte Kunimi-yama, (S. HATTORI, no. 1221a et no. 1270, 25. Mar. 1939).

Distr. Java, ins. Philippinis, Japonia (Kyûsyû, Taiwan).

var. *ocellata* (HORIKAWA) S. HATTORI, stat. nov.

Leptocolea ocellata HORIKAWA in Journ. Sci. Hiroshima Univ. Ser. B, Div. 2, I, 86, fig. 11 (1932) et II, 279 (1934); in Journ. Jap. Bot. XV, 397 (1939).

Hab. Kyûsyû. Prov. Ôsumi: Kimotuki-gun, Tasiro-mura, Utinomaki (S. HATTORI, no. 1828, 13. Apr. 1939), ins. Yakusima, Ambô-mura, Kosugi-dani (S. HATTORI, no. 7568a, no. 7890b et no. 7940, 26–27. Sept. 1940).

Distr. Japonia: Taiwan et ins. Yakusima.

9) **Taeniolejeunea pseudofloccosa** (HORIKAWA) S. HATTORI, comb. nov.

Leptocolea pseudofloccosa HORIKAWA in Journ. Sci. Hiroshima Univ. Ser. B, Div. 2, I, 87, fig. 12 (1932); l. c. II, 281 (1934); in Bot. Mag. Tokyo XLVIII, 573 (1934); KAMIMURA, l. c. 76 (1939).

Hab. Kyûsyû. Prov. Ôsumi: in monte Kirisima (S. HATTORI, no. 344, 17. Aug. 1939), in monte Takakuma (S. HATTORI, no. 1699, 11. Apr. 1939), Kimotuki-gun, Sata-mura (S. HATTORI, no. 2446, no. 2455 et no. 2456, 16. Apr. 1939), ins. Yakusima, Ambô-mura, Kosugidani (S. HATTORI, no. 7835a, no. 7840 et no. 7852a, 27. Sept. 1940), Kaikon (S. HATTORI, no. 8130, 1. Oct. 1940); prov. Hyûga: Minaminaka-gun, Sakatani-mura, Kamiguma (S. HATTORI, no. 2642, no. 2643 et no. 2711, 12. Aug. 1939), Obi-mati, in monte Komatu (S. HATTORI, no. 6401a, 18. Sept. 1940). Sikoku. Prov. Iyo: Kami-ukena-gun, Omogô (S. HATTORI, no. 5457, 27, Jul. 1940).

Distr. Japonia: Taiwan, Sikoku et Honsyû.

1) **かぎばえふじやうごけ**ハ東大ノ木村・古澤兩氏ガ昨年ノ沖繩採集旅行ヨリ齎サレタモノデ、すじひとつばノ葉上ニ密着シテ群生シタ見事ナ標本デアッタ。和名ハ葉ノ下片先端ノ齒牙ガ圖ノ如ク鈎狀ニ曲ル點ヨリ名付ケタ。コノ種ト次ノいぼえふじやうごけトハ葉ノ背面ニ無數ノ著シイ疣狀凸起ヲ密生シ、特ニコノ凸起ガ他ノえふじやうごけノ如クマルイ乳頭狀ヲナサズ、圖ノ如キ金平糖狀ノ疣々ヲ備ヘ且ツソノ中央ガ深ク凹入シテ甚シキハ疣々ノアル環狀ヲナスニ至ル點ガ非常ニ特異デアッテ、コノ點ヨリ當屬ヲ二ツノ群ニ分ケル事ガ出來ルデアラウ。

2) **いぼえふじやうごけ**ト言フ和名ハ既ニ 1) ニ於テ述ベタ如ク、葉背面ノ疣狀ノ凸起ヲ指シテ名付ケタモノデアル。前種トノ區別ハ葉基部ニ於ケル巨大細胞列ノ有無及ビ葉

ノ下片先端ノ齒牙ノ模樣カラシテ直チニ明ラカニサレル。一體上ノ 2 種ハ純粹ナ生葉上苔デアルモヽノ如ク、筆者ハ未ダ之ガ樹皮上ニ着生シタモノヲ見ナイ。他ノ種類ニ於テハ多カレ少ナカレ樹皮上ニ着生セル標本ヲ採集シテ居ルガ、殊ニ 3) ノ ひらえふじやうごけ、4) ノおがさはらえふじやうごけ及ビ 9) ノおびなしえふじやうごけハ比較的ニ樹皮蘚ノモノガ多イ樣デアル。尙 1) 及ビ 2) ノ二種ハ他ガ何レカト云フト常綠ノ濶葉樹ヲ好ムニ對シテ、羊齒類ノすじひとつばヤはひほらごけ等ニヨク着生スル樣デアル。

3) **ひらえふじやうごけ**ナル和名ハ該種ガ基物ニ密着シテ居ル點ヨリ名付ケタモノデ、本來ジヤマイカノ產デアルガ、筆者ハ九州及ビ四國デ採集シタ標本ヲ同種ト認メタ。此ノ種ノ葉下片先端ニ於ケル齒牙ハ圖ノ如ク弱小デアリ且ツ兩齒牙ガ接近シテ其ノ間ニ 1 個ノ透明ナ細胞ヲ抱ク點ガ著シイ。コノ透明細胞ノ位置ハ相當重要ナ特徵デアリ此ノ點ヨリ見レバ本屬ニハ大體三ツノ型ガアル。其ノ一ハ上述ノ型デ 4) ノおがさはらえふじやうごけ及ビ 6) ノくちばしえふじやうごけ等ガ含マレ、第二ノ型ハ透明細胞ガ略〻中央ノ齒牙ノ內側ニ位置スルモノデ 7) ノおほしまえふじやうごけヤ 8) ノ たいわんえふじやうごけ等ガ著シイ。第三ノ型ハ 5) ノけえふじやうごけデ代表サレルモノデ圖ノ如ク鈎狀ニ曲ツタ齒牙ノ側面ニツイテ居ルモノデアル。

4) **おがさはらえふじやうごけ**ハ小笠原島ヨリ報告サレテ居ルダケデアリ、3) ノひらえふじやうごけニ最モ近イト思ハレルガ、全體强壯ナ感ジデアリ葉形ガ鎌形ヲナス點ガ著シイ。尙葉基部ノ巨大細胞列モ 2～3 列ニ及ビ葉下片ノ齒牙モヨク發達シテ居ル明瞭ナ種デアル。

5) **けえふじやうごけ**ハ圖ノ如ク葉下片ノ齒牙ガ特異デアツテ、中央ノ齒牙ガ非常ニ强大トナリ鈎狀ニ曲ル點デ區別容易デアル。但シ前出ノいぼえふじやうごけノミハコレト似テ居ルガ葉ノ背面ノ獨特ナ疣狀凸起ニ依ツテ、及ビ巨大細胞列ヲ缺ク事ニ依ツテ確然ト區別サレル。

6) **くちばしえふじやうごけ**ハ葉ノ下片先端ノ 2 齒牙ガイスカノ嘴ノ如クニクヒ違ツテ居ル點ガ著シク、カヽル特徵ヲ示スモノニハ 9) ノおびなしえふじやうごけガアルダケデアルガ、後者ハソノ名ガ示ス如ク巨大細胞列ヲ缺ク點カラ區別出來ル。

7) **おほしまえふじやうごけ**ハ葉ノ周緣ガ透明ナ長方形ノ細胞ニ依ツテ緣取ラレテ居ル點ガ特異デアリ、コノ點ヨリ他種カラ直チニ判別サレル。

8) **じやばえふじやうごけ**ナル和名ハ該種ガジヤバ地方ニ廣ク分布スル點ヨリ名付ケタ。圖ノ如ク葉下片ノ齒牙ハ略〻同大デアル。コレニ似タくちばしえふじやうごけトハ齒牙ガ交叉シナイ事ヨリ區別サレル。尙コノ種ノ變種デアル**たいわんえふじやうごけ**ハ葉下片ノ齒牙ガ割合ニ離レ、中央ノ齒牙ガ乳頭狀ヲナスモノデアル。

9) **おびなしえふじやうごけ**ハ此屬中デ一番寒イ所迄行クモノト思ハレル。和名ハ前述ノ如クデアツテ他ノ種ヨリ比較的ニカケハナレタ種類デアル。葉下片ノ齒牙ハくちばしえふじやうごけニ似ル。筆者ハ此種ヲ九州大隅ノ霧島山中大浪池附近及ビ四國伊豫面河ノ溪谷深ク採集シタガ本屬トシテハ同種ノミデアツタ。コノ事ヨリ見テモ本種ハ熱帶性ノ本屬中最モ寒サニ耐ヘルモノデアラウ。